

EDITED KSA LISTING

CLASS: SYSTEMS SOFTWARE SPECIALIST III (TECHNICAL)

NOTE: Each position within this classification may be required to possess all or some of these knowledge, skills or abilities.

#	Knowledge, Skill, Ability
	Knowledge of:
K1.	Expert knowledge of information technology systems software, programming, equipment, and capabilities in order to install, maintain, secure, and support the most complex/multi-vendor hardware and software.
K2.	Expert knowledge of interfaces between hardware and software to determine product compatibility, installation procedures, problem resolution, configuration changes, and to oversee the work of peers.
K3.	Expert knowledge of installation and implementation requirements for the most complex information technology hardware/software systems to oversee installation of software, application of patches/fixes, and resolution of problems.
K4.	Expert knowledge of complex information technology concepts, best practices, methodologies, and principles to oversee, install, secure, and support hardware and software.
K5.	Expert knowledge of current industry standards, best practices and trends to advise users and plan for future changes.
K6.	Advanced knowledge of the regulations, laws, rules, and administrative process of oversight agencies, regulatory agencies, and the State legislature in relation to the State budgeting process, procurement process, and project authority process in order to prepare and get approval for feasibility studies, budget change proposals, and procurements/contracts.
K7.	Expert knowledge of flowcharts, decision tables, and block diagrams in order to troubleshoot the most complex problems and document the most complex system/network relationships, and oversee the work of peers.
K8.	Expert knowledge of programming languages (e.g. SQL, JAVA, HTML, .NET, etc.) to create the most complex applications and scripts, and oversee the work of peers.

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K9.	Expert knowledge of secure n-tier architecture (e.g. web, application, database, COTS) methods to troubleshoot the most complex problems and advise users and application developers, and oversee the work of peers.
K10.	Expert knowledge of data communications access methods to troubleshoot the most complex network performance problems, establish connectivity between disparate systems, and to oversee the work of peers.
K11.	Advanced knowledge of computer systems hardware to recommend, install, maintain, and support the most complex software and hardware configurations based on application design requirements.
K12.	Advanced knowledge of project management principles and procurement methods which includes defining the scope, preparing the budget/costs, determining resource requirements and schedule, performing risk analysis, in order to deliver high quality automation systems on time and within budget.
K13.	Expert knowledge of secure n-tier architecture (e.g. web, application, database, COTS) management systems to design and maintain the most complex applications based on business/system requirements, and to oversee the work of peers.
K14.	Expert knowledge of installation procedures to ensure successful hardware/software installations; mentor, direct, and oversee the work of peers; and troubleshoot peers' work.
K15.	Advanced knowledge of data gathering, sampling, and analysis techniques to troubleshoot the most complex problems, plan for future needs, monitor system/network performance, and present information and make recommendations to managers and users.
K16.	Expert knowledge of the most complex computer systems (e.g. operating systems, web, databases, messaging, network protocols, security products, etc.) to install and support hardware and software.
K17.	Expert knowledge of scripting languages and automated tools in order to maintain and support the most complex hardware and software systems.

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#	Knowledge, Skill, Ability
K18.	Expert knowledge of large-scale secure n-tier architectures, data communication protocols, network hardware, and network configurations to support the most complex technical environments.
K19.	Advanced knowledge of the organization's business enterprise to support business needs and meet business requirements.
K20.	Expert knowledge of the functions and capabilities of hardware/software and utility programs supplied by vendors to make recommendations, mentor staff in their use of the products, maintain systems, and solve problems.
K21.	Expert knowledge of the data communication interfaces, network hardware, and network protocols utilized between the various components of the network in order to solve the most complex problems, troubleshoot, test, and complete the most complex designs, and review the work of peers.
K22.	Advanced knowledge of the metrics associated with analyzing the performance of the components of the information technology environment to troubleshoot systems performance issues and oversee the work of peers.

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	Skill to:
S1.	Skill to develop detailed installation, maintenance, and support specifications to provide direction to team members and production support staff.
S2.	Skill to analyze data and situations, and think logically and creatively in order to develop plans, solve problems, assist developers, make recommendations, prepare reports, and support business functions.
S3.	Skill to identify problems, draw valid conclusions, and develop effective solutions to troubleshoot application and performance issues.
S4.	Skill to establish and maintain cooperative working relationships in order to participate on projects, communicate effectively with peers, users, developers, management, and others.
S5.	Skill to prepare clear and concise documentation (e.g. operations manual, disaster recovery procedures, operational recovery plans, etc.) to meet departmental and statewide standards.
S6.	Skill to prepare clear, sound, accurate, and informative issue papers and other reports of systems matters to communicate findings, conclusions, and recommendations.
S7.	Skill to justify and secure additional resources (i.e., finances, staff with appropriate skill sets, equipment, space, time) in order to develop and manage complex projects successfully.
S8.	Skill to install and upgrade hardware/software systems (e.g., patches/fixes, firewalls, routers, switches, security devices, messaging systems, etc.), and oversee the work of peers.
S9.	Skill to evaluate new products to determine if they are viable to meet business requirements.
S10.	Skill to read and understand technical documents in order to install the most complex hardware and software, troubleshoot problems, communicate effectively with vendors, managers, and users, and oversee the work of peers.

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S11.	Skill to plan and schedule hardware, software, and staff resources to complete installation and/or configuration activities and meet assigned deadlines.
S12.	Skill in retrieving, compiling, and reporting data according to established procedures to carry out capacity planning, performance monitoring, troubleshooting activities, and other business functions.
S13.	Skill to apply advanced knowledge of information technology systems software, programming, equipment, and capabilities in order to install, maintain, secure, and support hardware/software.
S14.	Skill to organize and perform a conversion between generations or versions of computer systems/networks in order to ensure accurate implementation, add functionality, fix existing problems, and meet business requirements.
S15.	Skill to appropriately assign workload in order to provide employees with the time, tools, and training to complete the work, and to control quality.
S16.	Skill to evaluate team members to determine skill level and training requirements.
S17.	Skill to train team members in order to provide employees with the necessary knowledge and skills to perform their jobs.
S18.	Skill to mentor team members in order to provide the necessary knowledge and skills to perform their jobs and prepare them for advancement.
S19.	Skill in formulating, recommending, and implementing standards and procedures to meet project and business needs and ensure consistency.
S20.	Skill to effectively apply knowledge of current industry trends to evaluate alternative proposals and recommend optimal solutions.
S21.	Skill to apply concepts such as portability and scalability in order to design, implement and evaluate short and long-term, complex information technology systems.
S22.	Skill to work independently to effectively solve problems, meet deadlines, and keep abreast of current industry trends.

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S23.	Skill to conduct and facilitate effective meetings to ensure workload is distributed appropriately, to foster effective communication, ensure meeting objectives are met, and explain issues and solutions to users, managers, team members and vendors.

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#	Knowledge, Skill, Ability
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	Ability to:
A1.	Ability to grasp new concepts in order to keep up with changes in the industry.
A2.	Ability to work independently to complete assigned tasks in a timely manner.
A3.	Ability to work under pressure to meet deadlines and service levels.
A4.	Ability to direct the work of others in order to meet deadlines and service levels.
A5.	Ability to consider the larger business perspective in proposing and designing information technology solutions.

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	Special Personal Characteristics:
SPC1	Willing to participate in conferences, meetings, and training sessions, etc., to present results/effects of evaluation studies of present/new operating procedures, provide training to users and/or operations staff on new systems/software, and remain current with new technologies.
SPC2	Be proactive to identify problems, suggest solutions, and independently resolve issues.
SPC3	Exhibit professionalism in order to communicate effectively and maintain working relationships.
SPC4	Remain calm and composed in stressful situations and maintain a sense of optimism and a positive mental attitude when under pressure.